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ABSTRACT

A study was conducted to explore the possible negative consequences that can occur when an innovation is introduced into an organization, with a focus on how the dynamics of an organization can affect, and be affected by, change. After a review of the literature on organizational change and innovation was completed, structured interviews were held with staff members from colleges known to have an innovative program in staff development, alternative delivery methods, computer uses in education, outreach to business, telecommunications, small business development, international education, or other areas. Costs were measured in terms of unanticipated direct expenditures, innovation unrelated to the mission or functions of the college, neglect of core institutional functions, effects on institutional harmony, staff burnout, influence on institutional reputation, and effects on leadership. Based on study findings, a checklist (included in the document) of questions related to these costs was developed to guide community college leaders in a quick review of the potential consequences of proceeding with an innovation. (EJV)

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THE COSTS OF INNOVATION

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THE COSTS OF INNOVATION

INTRODUCTION

Innovation, for the purposes of this chapter, is defined as "any departure from the traditional practices of an organization" (Levine, 1980, pp. 3-4). A facet of innovation that has received limited attention is the cost of innovation; i.e., negative consequences that can result when innovations are introduced in community colleges. When costs are considered, the focus is usually limited to direct start-up expenses, expenses for implementation and, at times, ongoing expenditures. In few cases is attention directed to cost considerations beyond these basics.

The literature on innovation is quite extensive. It addresses such topics as the conditions under which change is likely to occur, characteristics of innovative organizations, how to plan for and carry out successful innovation or change, and obstacles to the successful innovation (Miles, 1964; Martorana and Kuhns, 1975; Bennis, et al., 1976; Levine, 1980; Drucker, 1985). Much of what has been written about the process of innovation can be placed into the following four categories which correspond to the sequence in which change takes place: 1) Recognizing the need for change, 2) planning a strategy for meeting the need, 3) initiating and implementing the plan, and, 4) deciding to continue or terminate the innovation (Levine, 1980, p. 7).

According to Levine, a great deal is known about the first three stages of the process of innovation. As for the outcomes of innovation, the current literature speaks generally of only two possibilities--success and failure. An innovation is deemed successful if it persists in the organization. An

innovation is regarded as a failure if it does not persist. The question of what costs or negative consequences can occur in colleges during the stages of innovation has not been systematically addressed.

The focus of this chapter is on the range of possible negative consequences (costs) that can occur when an innovation is introduced. The purpose is to heighten awareness of how the dynamics of an organization can affect and be affected by change. Applicability of what is stated rests on the premise that, when proceeding with an innovation, a knowledge of the possible consequences on the organization will increase the probability of deriving maximum benefits while minimizing negative consequences to the college from the innovation.

A range of cost categories to be considered in planning for innovation is identified and analyzed. This economic-based classification is adopted to make apparent the negative consequences which may result from innovation. To serve colleges in planning for and evaluating how to proceed with an innovation, a checklist is then presented.

Conclusions were developed by establishing the cost classification categories, reviewing the literature, conducting structured interviews with individuals representing ten institutions in which significant innovation has occurred, and direct experience with other professionals. An additional interview took place with a representative of a firm that conducts workshops for organizations interested in creating an environment that supports innovation. Through the interviews with individuals from ten community colleges at which innovation occurred, analyses of the cost categories were derived. The literature review sought understandings as to how categories of the

costs have been addressed and to determine what other significant elements should be included in the development of the checklist. Direct contact with other professionals at administrative workshops allowed for further refinement of the cost categories.

Costs were classified as follows: funding (direct expenditures), innovation without attachment, neglecting core institutional functions, institutional harmony, staff burnout, institutional reputation, and leadership.

The structured interviews were held with staff members from colleges known for having an innovative program in the following areas: staff development programs (Dallas County Community College District (Texas) and Humber College of Applied Arts and Technology (Ontario)), alternative methods of instructional delivery (Coast Community College District (California)), an off-campus hotel and restaurant operated by the college's hotel, restaurant, culinary program (Santa Barbara Community College District (California)), computers in education (Miami Dade Community College (Florida) and Southwestern College (California)), outreach to business-industry and governmental relations (Foothill-De Anza Community College District (California)), telecommunications improvement project (Maricopa County Community College District (Arizona)), small business development center (Lane Community College (Oregon)), and international education (Broward Community College (Florida)).

The innovations ranged from high tech (telecommunications and computers in education) to open-ended programs (staff development/alternative methods of instructional delivery) to targeted innovations (off-campus hotel/ restaurant facilities and a small business development center). This range of

innovations and the geographical distribution of the colleges combined with the literature review and discussions with numerous practitioners provided a broad base for refining the cost categories and for developing a checklist that can be used by educational leaders in determining whether or not to pursue an innovation.

Identification of Cost Categories

The cost categories were developed by the authors and refined through a review of the literature pertaining to innovations, field research with colleges that are known as innovative institutions, and discussions with colleagues. A definition and discussion of each of these categories follows:

Funding: What Are the Direct Expenses Associated With the Innovation?

There was universal agreement in the literature and in each of the structured interviews that there were direct costs in terms of dollars, staff, facilities, and supplies involved in the launching of an innovation. If it can be assumed that maximum resources go into current operations and maintenance, then the development and implementation of new programs would appear to require either the addition of money and staff beyond that required for the present operation of the college (Miles, 1964) or the redistribution of existing resources to support the new enterprise. One of the conditions for successful innovations identified by B. Lamar Johnson (1969) was the availability of adequate funds. The consequence of not providing adequate resources to support innovation was illustrated by Johnson (1969) when he observed expensive innovative instructional equipment lying idle and the faculty returning to using traditional methods of teaching because they were not given sufficient time to devote to the innovative activity.

The ten institutions included in this study proceeded with their innovations by anticipating additional direct expenses resulting from the innovation. Frequently, however, new and unanticipated needs for staff arose when moving from the conceptual to the implementation stage of the innovation. Some innovations had greater unanticipated costs than others in terms of direct financing and human resources. For example, technological innovations generally resulted in greater direct expenditures than anticipated in such areas as the commitment of staff time, expenditures for upgrading of equipment, modification of systems, facilities modifications, and staff training for use of the new technology. Costs in the implementation stage; e.g., ongoing staff training and retraining, product enhancements, and upgrading facilities, should be anticipated and specified in the plan for change.

In the current climate of limited resources, the fiscal means used to support innovations in the ten colleges were most often drawn from existing resources of those institution such as cost savings, borrowing from support departments, and direct costs for services.

The need for systematically determining the direct expenses for all stages* of the innovation and for revenue sources to support these expenses is obvious. However, what is not so obvious are the negative consequences of failing to adequately assess expenses and income--a condition that quite often appears without being anticipated. These negative consequences may include premature halting of the innovation, taking funds from other budget areas, commitment of staff time to raise funds, underutilization of the innovation, an inability to expand the innovation to meet demands that it has stimulated, and less receptivity for future innovations.

* (For examples of the stages for innovation, see Levine, p. 7, 1980.)

Innovation Without Attachment: What cost considerations result if the innovation is seen as an end in itself and not related to the mission or functions of the college? Innovation without attachment can occur when managers introduce new programs at their institutions not because they are part of a systematic process of planned change, but because they are responding to opportunities that are available in the immediate environment. Factors that can result in the addition of new programs not directly related to the college's core functions include: The availability of external grant funds intended to support a particular activity; offers of funds by donors to initiate their pet projects; and pressure from influential members of the community, governing board, and/or staff to implement a new program that will solve a particular problem. Martorana and Kuhns (1975) state that such a band-aid approach is able to set in motion inappropriate changes completely unrelated to the goals of the institution and which in the long run may prove to be more liability than asset. Martorana and Kuhns observed that change for the sake of change; i.e., without regard to whether the proposed change will accomplish institutional goals more effectively than current practice, is the norm in community colleges.

In his chapter on principles of innovation, Drucker warns managers that innovations that stray from the core of an institution's activities are likely to become diffuse. Drucker notes that to succeed, innovators must build on their strengths. Successful innovators look at opportunities over a wide range. But they ask, "Which of these opportunities fits me, fits the company, puts to work what we are good at, and have shown capacity for in performance?" (Drucker, 1985, p. 138). Costs of innovating without attachment identified by Martorana and Kuhns (1975) and Drucker (1985) include the diversion of staff time and energy from building on a college's strengths by

spending time to manage programs that are on the periphery of the institution's core functions and the loss of staff enthusiasm resulting from needing to support an innovation which is perceived as unimportant to the viability of the institution.

Respondents to the ideas in this chapter highlighted the necessity of assuring that the innovation is related to the institution's function. Though perceiving their innovation as related to the mission and functions of the comprehensive community college, respondents acknowledged that at times an innovation does not fit neatly into the existing institution's organizational structure. For example, when the small business development center was introduced at Lane Community College, unanticipated staff time was required to modify the college structure to accommodate the innovation and to explain to staff the relationship of the program to the college's mission.

One of the respondents recommended that institutions should conduct "random harvesting" to assure colleges are "using the most effective means to achieve the diverse ends of the comprehensive community college." Such harvesting has cost considerations if the activities are perceived as "unattached"; i.e., not related to institutional practices or purposes.

Respondents cautioned that colleges should not chase dollars that are available or seek "quick fixes" without adequately verifying the institution's need. It was noted that the best way to get into trouble was to innovate for innovation's sake and not to have adequately developed the institution's connection to the ends sought through the innovation.

In the literature, "compatibility" is identified as one of the critical characteristics for success in effecting the innovation (Shepard, 1969 in Levine, p. 168). Compatibility is defined as "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of the receiver." If the innovation is not attached to the institution's purposes, failure may result. Consequences from such failure may include a lack of enthusiasm to seek out and support subsequent change and deep resentment from the use of limited funds and staff resources to support activities seen as tangential.

Neglecting Core Institutional Functions: What costs does the innovation have in regard to time, energy, and fiscal resources diverted from fundamental tasks of the college? According to Drucker (1985), perhaps the most difficult task for top managers is to balance the needs of existing programs against the needs of potential programs. Drucker urged managers to think carefully about how innovation fits into their strategy and then structure their technology, resources, and organizational commitments accordingly.

At a recent state-wide leadership conference attended by one of the authors, there was a consensus among the participants (program directors, deans, vice presidents) that over the past few years they had been asked to supervise a number of new programs that were initiated at their institutions. Participants noted that the time and effort required to administer these new activities was being diverted from the core functions that they were initially hired to manage. To illustrate, community colleges in a number of states have only recently emerged from a five- to ten-year period of retrenchment in which the resources provided to operate the institutions did

not keep abreast with increased costs caused by inflation (CPEC, 1986; Schoening and Terry, 1985). Nevertheless, during this time of declining or steady-state funding, many colleges continued to respond to the changing needs of their constituents by adding new programs within their existing funding and staffing allocations (Schoening and Terry, 1985). Quite a few managers have noted that while there may have been an excellent rationale for why each new initiative was introduced at their respective colleges, the sum total of these innovations was having the unintended consequence of undermining the quality of existing programs because staff time and institutional resources were being spread too thinly.

Because the individuals interviewed from the ten colleges saw their innovations as being consistent with their institutional missions, expenditures were often viewed as investments rather than costs alone. The view was and is not always embraced that simply by all constituent groups in a college community. In a time of budget constraints, there is competition for funds among numerous valid institutional programs. At issue frequently is: How can funds be spent for new programs when that requires diverting them from underfunded, ongoing functions?

Most of the individuals interviewed for this project agreed that introducing an innovation into a college does divert staff from their core responsibilities and functions. The consensus of those interviewed was that this cost could be minimized by providing adequate staff to meet the demands of the innovation. However, even with added support, other responsibilities of staff members may have to be set aside during the implementation phase of the project. To illustrate, Miami Dade's Audio-Visual Department installed

and now maintains the hardware needed for the college's computer lab. To accomplish this task, existing staff allocated all their time to support this new program forcing them to set aside their existing responsibilities. After six months, the Audio-Visual Department needed to create a new line position to support the new program. At this college, implementing a new program diverted existing staff time away from their assignments to the point where additional staffing was needed to handle the increased workload generated by the innovation. In an era of limited funds, many community colleges are not in the position to add additional positions to relieve their staff of the added workload resulting from the innovation. To the extent that this occurs, significant portions of a staff member's time will be diverted from his/her core job responsibilities to the operation of the innovation.

In situations where the innovation was perceived as peripheral to ongoing programs, as having significant start-up and ongoing costs, and when outcomes were uncertain, consequences (costs) related to neglecting core institutional functions emerged. The contract education program at De Anza College was initially located within the college's existing organizational structure with the mission to market the college's programs to organizations in the community. In the beginning, the only new additional staff member was a part-time program developer hired from outside the campus. As the contract education program grew, however, it became a problem to participating academic divisions. The program became a burden to the ongoing operation and caused program managers to divert staff and resources from the core functions of their divisions. This problem was solved by adding additional staff to the contract education program to perform much of the administrative work required to operate the program.

A situation in which the innovation may be taking unanticipated and unwanted direction may result in a need to "curb" the innovation. In an analysis cited by Levine, 1980 (p. 159), "curbing the innovation begins to take so much time that the host organization is unable to satisfy its more basic needs, which makes the innovation unprofitable and termination is the result." This condition occurred in the case of the Santa Barbara Community College District's venture into the operation of an off-campus, 114-room hotel and major restaurant for its well-known Hotel, Restaurant, and Culinary (HRC) program. The project was intended to provide the staff and students with a unique, real-world educational laboratory by their operating all phases of a prominent hotel and restaurant in the community. Though the plan was well received in the extensive planning stage, unanticipated and unwanted directions resulted. These included millions of dollars in claims being filed against the district by a culinary union, inquiries by the State Legislature, a decline in student enrollment for the HRC Department, reduction of some on-campus food services, and considerable press--not all of it complimentary.

The time commitment for district staff, particularly the president, vice president for academic affairs, the business manager, the HRC department chairman, and the board of trustees became burdensome; it affected the college's capacity to deal effectively with its more basic needs. These conditions, coupled with income-expense estimates not in keeping with original projections, resulted in termination of a project all parties supported because of its educational benefits.

The scope and magnitude of the innovation has bearing on the neglect of core institutional functions. Whether an innovation is met with some resistance

or support, or a combination of both, neglect to other functions of an organization may occur or be perceived as occurring. Ongoing staff commitment to the core functions of the college may be undermined to the extent to which each of the following reactions to the innovation occurs:

a. The view that funds and staff resources required to support the innovation could be used better to support the existing programs;

b. The perception that basic functions are receiving less attention from the administration and, thus, are being devalued; and

c. The emergence of a gap between those who support the innovation and those who do not.

Each of these can cause conflict and divisiveness which in turn can divert staff involvement from basic college programs.

Institutional Harmony: Are there factors regarding the innovation's implementation that may lead to institutional conflict? Miles (1964) and Drucker (1985) have each observed that reforming or introducing a change in the operation of an existing college often requires a change in the behavior of college staff and students. As noted by Miles (1964) some members of the college may be eager to try the idea; but inevitably others will be opposed, and overcoming these negative forces requires a major effort which represents a significant cost in staff time and energy.

Several of the respondents to the structured interviews noted that there were members of the staff who did not support the innovation when it was first introduced. The lack of support for the innovation ranged from

initial skepticism among some staff at one college to wide-spread resentment and personal vilification of the president at another college. For example, when the study abroad program was first introduced at Broward Community College, a number of people within and outside the institution questioned why the college was involved in international education. Many of its faculty and staff who were not involved in the program viewed it as a "boondoggle" feeling it was just a way to achieve a nice trip. The contract education program at De Anza College initially caused resentment among some staff who questioned whether a program that diverted resources from the ongoing activities of the academic division fit the mission of the college. Divisiveness over the program was at its peak two to three years after it was initiated because, as it grew, it became more and more of a burden on the existing resources of the academic divisions. At one of the colleges, an internal advisory committee was formed to alleviate concerns individuals had in how the new program would affect their own programs. While this effort proved to be successful, it did require a significant investment of administrative and faculty time to overcome the concerns expressed by members of the college community.

At two of the institutions, the divisiveness caused by the innovation contributed to the decision of the colleges' governing boards not to renew the contracts of the presidents. The former president at Southwestern College (California) was committed to making her college a leader in the use of computer technology in instruction and management. Upon her arrival at the college in 1981, the president's assessment of the curriculum was that it was woefully out-of-date in many areas and that it could be updated and upgraded through the use of computer technology. A $6 million reserve was used to provide for salary increases as well as to pay for the implementa-

tion, maintenance, and enhancement of the innovation. Criticism over the computer project began almost immediately. The faculty had been in place at the college for many years, and many had a fear of automation. To some, the innovation was interpreted as a negative statement about their work and how they taught all those years. It was met with tremendous, consistent resistance with a great deal of personal vilification.

The automated computer system required increased resources each year to accommodate the growing demand for the technology. As the funding for the program increased, college staff and board members became critical and questioned whether too much money was being spent on computers. Ironically, even the critics did not want to give up their terminals.

Although this project attracted substantial contributions of computer technology from the private sector and enhanced the reputation of the college (Southwestern was the only community college selected to participate in the prestigious Inter-University Consortium for Educational Computing) as a leader in the use of computers in instruction and management, it caused a tremendous amount of institutional divisiveness which resulted in substantial costs in time and emotional well-being. The time spent participating in board of trustees and campus politics diverted the president, her management staff, and the faculty from focusing on the main aspects of their jobs. The emotional costs occurred in responding to attacks on the sponsor and supporters of the innovative program.

A somewhat similar scenario occurred at the Coast Community College District (California). The district's use of alternative methods of delivering

instruction established the institution as one of the leaders in the nation in the use of instructional technology, helped to attract substantial sums of money from the private sector to support the project and also caused a great deal of debate and divisiveness within the colleges. The dissention was over the allocation of resources needed to support the project and the use of media rather than in-class "live" instructors to deliver instruction. The extensive internal debate surrounding this successful innovation dominated the agenda of the district for a prolonged period of time and served to divert staff energies from their jobs to participation in campus politics.

In each of the case studies, the innovation appeared to be sound. However, the divisiveness that was initially present intensified when there was a decline in state funding which was followed by losses in student enrollment and subsequent additional declines in revenues. In order to cope with the decline in revenues, both districts considered reductions in staff and programs. At this point, staff members singled out the expenditures from the innovations as the major contributor to staff layoffs and program reductions. The innovations and their principal advocates became the target of the disharmony within the institution.

Because anxiety is often associated with change, some conflict may be a concomitant condition of innovation. However, anticipating and addressing anticipated sources of discontent may help to reduce such negative effects (costs). For example, it was the general view of those interviewed that tension results when finite resources must be shared further "for something new." Also, whether the innovation is perceived as imposed from above or emanating from a staff solution is an important variable.

The research of Rogers and Shoemaker in Levine (1980) is instructive in preventing institutional disharmony from occurring as a result of the innovation. Basing their conclusion on more than 1,500 empirical and nonempirical studies, they identified five critical characteristics that determine an innovation's success or failure: 1) relative advantage (the degree to which the innovation is perceived as better than the idea it supercedes), 2) complexity (perceived difficulty to understand and use), 3) observability (the degree to which the results are visible to others), 4) compatibility (the degree to which the innovation is perceived as consistent with the existing values, past experience, and needs of the receiver), and 5) trialability (the degree to which an innovation may be experimented with on a limited basis). To the extent these characteristics can be advanced during the innovation will the potential for disharmony be reduced.

The Telecommunications Improvement Project, which was initiated at the Maricopa County Community College District in 1985, serves as an innovation that has met each of these five critical characteristics and that has resulted in maximum benefits with minimum costs to the district. This project was designed to replace the district's antiquated telephone systems with an inter-college, integrated telecommunications network that allowed for voice, data, and video communications among the nine locations in the district.

This massive, complex, and expensive project did not result in divisiveness among staff members in this multi-college district for the following reasons. The relative advantage of the proposed communications systems over the one it was designed to replace was established through an intensive six-month needs assessment study that involved consulting with numerous members

of the district's staff. In addition to documenting the need for an alternative communications system, this study aggressively sought staff members' reactions to the proposed project. In order to circumvent problems that could have arisen from staff perceptions that the new system was too difficult to learn how to use, the vendor was required to develop a customized training program. To ensure that staff members would use the new system, the district mounted an internal marketing campaign to promote the availability of the training program. This campaign resulted in over 90 percent of the staff in the district participating in the training program called, "Don't Be Puzzled by Your Telephone." The training addressed the issue of complexity in that individuals were trained to understand and use the new system.

With respect to observability (the degree to which the results of the innovation are visible to others), the district publicized the advantages of the system to its staff and to the community through newsletters and articles in the press. An important feature of this public awareness campaign was the fact that the money borrowed to pay for the new up-to-date communications system was being paid back through the savings the district realized from operating its older, more costly telephone systems.

It is likely that the new communications system would have been regarded as a costly boondoggle and the cause of much divisiveness if the project staff had not taken time to demonstrate the relative advantage of the proposed system over the one it replaced, the ease of using the new system, and the actual benefits of the system to the college community.

Staff Burnout. This cost results where there is a depletion of contributions from individuals resulting from intense involvement over time. Job satisfaction appears to be a basic need. Until that need is satisfied, there is little likelihood, states Levine, 1980, (p. 172), "that solution to more advanced needs will be sought" thus reducing the potential for innovations because they will appear unprofitable. It became equally clear in this investigation that staff burnout is a cost element that must be dealt with as a precondition and possible consequence when innovation is being considered.

One of the three conditions of successful innovation identified by Drucker (1985, p. 138) stated that "...innovation requires hard, focused, purposeful work making very great demands on diligence, on persistence, and on commitment. If these are lacking, no amount of talent, ingenuity, or knowledge will avail." The substantial commitment of time and energy needed to develop, to implement, and, in many instances, to maintain an innovation was identified in the literature (Johnson, 1969; Miles, 1964) and in each of the structured interviews conducted in conjunction with this project.

The premise that innovation cannot be accomplished without overextension was also concluded from discussions with respondents. "A terrific commitment is required" for innovation to succeed. The ultimate concern for the manager, it was noted, must be moving from burnout due to lethargy, cynicism, and resentment to burnout resulting from enthusiasm.

There are a number of conditions through which the introduction of innovations can result in the unintended consequence of staff overextension, burnout, and resentment. Such conditions can occur when:

a. The same administrators and faculty members are asked to assume responsibility for an innovation year after year.

b. Staff members are not provided with adequate release time and/or resources to develop and implement the innovation.

c. No additional funds are available to relieve staff members of the excessive workload they endured during the early stages of the project or to accommodate the increased work activity resulting from the success of their program.

d. The workloads of support staff are not taken into account in decisions to add new programs at the institution.

e. Unrealistic goals are set for the innovation.

These conditions can cause frustration, fatigue, internal blaming, and perhaps failure (Miles, 1964).

These views were echoed by those interviewed who noted that the tendency at their institutions was to reward good work with additional responsibility. Respondents highlighted the need for sensitivity regarding the extent of staff time being invested, balancing time off with time-on tasks, and providing support programs when individuals "run out."

Recognition for contributions made was identified as a means to alleviate burnout along with the basic, but central consideration of the intrinsic rewards that come from quality of effort and achievement. That individuals are rejuvenated through innovation was clear. Equally clear is the need for a sensitive, supportive environment to assure that the costs for overtaxing staff are limited.

Attention to this cost area was felt to be particularly important to individuals supervising staff working in college centers for innovative projects. For example, individuals responsible for innovation centers that focus on staff development or alternative methods of instructional delivery work consistently with applications from different teachers. This requires ongoing enthusiasm, commitment, and dedication at an intense level. For the applicant, the innovation is new, exciting, and often releases great supplies of energy. The center staff is supposed to mirror this response. Initially, it is possible; month after month may result in burnout. The results may become costly for the individual and program. As was noted in the interview with staff from the Dallas County Community College District, "There is no panacea for the problems of burnout involved with staff development programming. It is a rare individual who can avoid burnout over the long term because of the total commitment required to run the program."

For other program innovations, once the initial demand is over, there is often a leveling out in the maintenance stage. The open-ended innovation center must be attended to in order to assure that a depletion of staff contributions does not occur. The rotation of staff, staff support and recognition, adequate staff for the project, and setting realistic goals are among the actions helpful in reducing costs associated with staff burnout.

Costs in this area may include resentment at being used, unwillingness to participate in future projects, increased staff cynicism regarding innovation, and thus, a decline in overall institutional effectiveness.

Institutional Reputation: The effect of the innovation on the college's reputation; i.e., will the innovation enhance or detract from the institution's reputation? This potential cost of innovation was addressed in a recent article in the Harvard Business Review where the author noted that, "A company that wishes to move a concept from innovation to the marketplace must absorb all potential failure costs itself. The risks may be socially or managerially intolerable, jeopardizing the many other products, projects...the company supports" (Quinn, 1985, p. 73).

Almost without exception, the conclusion reached from the structured interviews with leaders from the innovative community colleges was that successful innovations have had positive institutional effects including enhancement of the college's reputation and increased staff morale. The consensus from the respondents was that once an institutional value for innovation is in place a base is established for other innovative endeavors to be undertaken. In one case when the innovation failed, the conclusion was that it was at worst neutral, and failing may have enhanced the institution's reputation because of the perceived educational soundness of the idea, the perception that failure was greatly influenced by external factors the college could not control, and the willingness to risk.

However, as noted in the article by Quinn, the cost or negative consequences of the effect of the innovation on the institution's reputation is an element colleges should consider before proceeding with the innovation. The effects are often lasting because of the high visibility associated with innovation. For example, during the time of high oil prices, the leaders at Lassen College (California) decided to build a cogeneration plant on their campus with funds raised from the sale of certificates of participation.

This alternative energy project was initiated with the expectation that it would generate much needed funds for the financially strapped district by: 1) selling the surplus energy produced by the plant to a gas and electric company, 2) saving money in its own gas and electric bills, and 3) attracting students to enroll in the college's new alternative energy program. For a variety of reasons, including the faulty design of the cogeneration plant and rapidly declining oil prices, the cogeneration plant proved to be unsuccessful, and it put the college on the verge of financial bankruptcy. An unintended consequence of this innovation was that it focused a great deal of local and statewide attention on the financial instability of the institution. This episode has had a long-term negative effect on the reputation of the college.

Both the probability of success and the educational value of the innovation are important elements to evaluate because of their relationship to the institution's reputation and the subsequent climate produced for initiating future innovations. Levine, 1980 (p. 168), states, "The fact of the matter is that innovation is more likely to occur in some types of organizations than others." Innovation- resisting versus innovation-producing organizations are referred to by Shepard, 1969 in Levine, p. 108. The cost of failure may be upon the institution's reputation and thus upon the institution's self-perception and place on the continuum of "resister" to "producer" organization. In short, if the institution's reputation is negatively affected by innovation that fails or by an innovation seen as inappropriate for the college, the potential for institutional effectiveness may be reduced. Such a cost occurs when an institution spends insufficient time contemplating both the risks and the alignment of the innovation with the institution's raison d'etre.

Effect on Leadership: What are the costs (consequences) that may affect the institution's leaders as a result of innovation? Considerations in this cost area became evident during the interviews. Three leadership considerations appeared: The importance of the leader maintaining credibility, the leader staying out in front (but not too far), and the leader encouraging others in the organization to take on responsibilities as "leaders and developers."

If the leader is too far in front of his/her constituents, a lack of support can result with negative effects (costs) for the college's leadership. In the interview with the president of Humber College he noted, "You want to be pushed by the followers, and not be so far out in front that you can't pull them with you. It does not matter what kind of a visionary mission the leader has, if the leader is not closely in touch with the followers, the leader will have a problem." In one case, the leader's continued commitment to the innovation and the inability to develop broad-based faculty support, appeared to be directly attributable to the loss of a job. This cost was in spite of clear evidence of the innovation's success and tangible benefits accrued from it.

To a less dramatic degree than the leader's loss of a job is how a failure to deliver can affect the leader's credibility. Again, the Humber College president's comments are instructive. "You also have to deliver on what you say and promise. Otherwise, you lose your credibility. Once you lose your credibility, staff are reluctant to put out energy to follow in other

categories." Thus, credibility is important as a precondition in establishing the momentum to initiate the innovation. It is also a consideration in all stages of the innovation because its loss is costly if a healthy climate for future innovations is to be maintained.

The importance of presidential leadership is well established. However, in today's complex institutions, the president cannot do it alone. The need for leadership to emerge at all levels becomes linked to the college's vitality and ultimate success. As observed by the Humber College president, if key players are alienated, the president becomes a demigod. He or she has to work in the structure to give incentives to faculty and encourage managers. "They are all leaders and developers."

The risks of leadership are apparent when innovations are considered. Institutional change creates unease, and reactions can be unpredictable. The costs emanating from innovation that may affect the leader include loss in credibility or a loss of position. The likelihood of these conditions occurring can be lessened if the leader is able to deliver on what is promised (credibility), if there is support for the change being pursued, and if leadership throughout the organization is encouraged.

CHECKLIST FOR DETERMINING POTENTIAL COSTS ASSOCIATED WITH INSTITUTIONAL INNOVATION

The literature review and interviews with respondents from colleges involved with innovation led to the conclusion that a review of the seven cost categories can be of value in reducing negative consequences and increasing the benefits to be derived from an institutional innovation.

An assumption that has guided the authors is that innovation in the community college is essential to community colleges meeting their broad, diverse, and challenging mission. Further, that a less than thorough approach to planning for and implementing an innovation can have negative consequences, including significant internal disharmony, damage to the college's reputation, and loss of jobs by capable leaders. Such results hinder receptivity to needed innovation. By understanding and anticipating the potential costs related to innovation, the institutional leader will not be paralyzed by a fear of failure but will be supported in efforts to improve the college. The checklist that follows is intended to support and enhance leadership for innovation.

The purpose of the checklist and its explanation is to provide a means for practitioners to consider potential consequences of their actions while determining whether or not to pursue an innovative program. Based on his extensive experience with organizations, Drucker (1985, p. 143) observed that "...successful innovators have one thing in common: they are not 'risk-takers.' They try to define the risks they have to take and to minimize them as much as possible." Drucker urged organizations to develop a guide to the practice of innovation. Such a guide should provide specific suggestions on what colleges have to do to innovate, what they have to watch for, and what they should avoid doing. Although a number of authors have proposed guidelines that managers should follow in developing strategies for change in educational organizations, most of the suggestions either focus on the process of change or are very general. None of the guidelines or checklists focus systematically on the potential consequences of innovation once it has been implemented. For example, Martorana and Kuhns (1975) advanced a series of guidelines for educational change leaders that focused

on strategies managers should take into account when initiating, directing, and implementing change. The list did not include any strategies for addressing the consequences of change identified in this chapter that can take place after an innovation has been implemented. In his discussion of the principles of innovation, Drucker (1985) identified several "Do's and Don'ts" of innovation as well as three conditions of innovation. He states that successful innovation requires hard, purposeful, and focused work; it must build on the strengths of the organization; and, it should be close to the market, focused on the market, and be market-driven (pp. 138-139). While the suggestions forwarded by Drucker make good common sense, they tend to be general and do not focus on the consequences of innovations other than ongoing expenses.

The checklist is meant to provide the community college leader with a guide for a review of the potential costs of proceeding with an innovation. The results of such a review should help the leader to determine whether or not to pursue the new venture. If a decision is made to proceed, the checklist should assist the leader in planning successful strategies for instituting the innovation.

QUESTIONS TO BE ANSWERED WHEN PLANNING AN INSTITUTIONAL INNOVATION

A. Funding

1. What direct and indirect expenditures are anticipated for the innovation from its inception through implementation to maintenance or expansion?

2. Are the costs appropriate for the benefits to be derived?

3. What are the sources of funds and the probability of their continued availability?

4. Are there sufficient contingency funds available to cover unanticipated costs?

5. When is the program to become self-supporting, and are the bases of these assumptions clear to program managers?

6. What administrative, faculty, and support staff are needed to initiate, implement, and maintain the program?

7. What training costs are required to upgrade staff skills to fully utilize the innovation?

8. Have equipment purchases, upgrades, and facility requirements been accurately determined?

B. Innovation Without Attachment

1. Does the innovation relate to the institution's mission? If so, who (faculty, students, administrators, community) will benefit and how?

2. Have the connections of the innovation to the college's fundamental purposes been well established and communicated to staff?

3. Is there a perceived need for the change?

4. Who is providing the impetus for it?

5. Has there been sufficient involvement of staff at all levels in the decision to pursue the innovation?

6. Has information regarding the benefits of the innovation to the institution been widely disseminated?

C. Neglecting Core Functions

1. Will the innovation require significant time from existing staff? How much and for how long?

2. What ongoing responsibilities will receive less staff time, and what will the effect be on those responsibilities?

3. What steps are required to assure adequate attention to core functions during the time of heavy staff commitment to establish the innovation?

4. Is the investment in time and resources warranted by the benefits to be received by the innovation?

5. Have contingencies been identified to modify or curtail the innovation if necessary?

6. What ongoing functions will not receive funds for program maintenance or enhancement because of the expenditures for the innovation?

D. Institutional Harmony

1. What will the innovation allow the college to do better?
2. Are the results readily observable, and how can they be made so?

3. Do individuals understand the innovation, and are they able to use it?

4. What, if any, resentment is likely to surface, and can it be addressed effectively?

5. Has broad-based support been developed for the innovation?

____Board of Trustees ___Faculty
____Management Staff ___Support Staff

5. Have individuals who are likely to express concerns been included in the planning?

E. Staff Burnout

1. Are there sufficient human resources available to support the innovation during all stages?

2. What support programs are available to assist staff if the innovation runs into problems and significant commitments on time are required?

3. Is it possible to alternate staff without losing impetus for the innovation?

4. Is there a core of staff members enthusiastic about and committed to the project?

5. What intrinsic and extrinsic rewards will be available to project staff?

6. Who is responsible for monitoring the effect of the innovation on the workloads and attitudes of the project staff?

F. Institutional Reputation

1. What are the potential effects, both positive and negative, of the innovation on the institution's reputation?

2. Is the institution prepared for criticisms from internal and external constituencies--whether the innovation succeeds or fails?

3. What is being done to promote understanding of the benefits of the innovation within and outside the institution?

G. Leadership

1. Have the potential liabilities and assets of the innovation been accurately identified?

2. What possible consequences will the innovation have upon the:

_____ Board of Trustees
_____ CEO
_____ Other Administrators
_____ Faculty Leadership

3. Are the lines of management and organizational responsibilities clearly delineated for all phases of the innovation, including its place in the organizational structure?

4. Is there an institutional willingness and capacity to maintain the innovation after its implementation?

5. Is there a sufficiently skilled technical staff and system support for the innovation?

6. Is there an evaluation plan that will produce information for the consequences of the innovation?

Conclusion

In addition to direct financial expenditures, there are other institutional costs to be considered when innovation is contemplated. When evaluating direct costs, unanticipated and often hidden costs should be contemplated. The structured interviews conducted with individuals from a variety of colleges verified that projections of direct expenditures frequently underestimate the actual costs. Thus, innovations may require an infusion of unanticipated funds or curtailment of the project. The amount of staff time required and the direct expenses related thereto were most significant, particularly for staff not directly involved with the innovation. The time required on the part of senior administrators and others associated with the innovation was highlighted as costs associated with neglecting "core" functions. The necessity of close affiliation with the institution's mission; i.e., a capacity to be "institutionally attached," was seen as a necessary element with cost implications if that does not occur. That institutional harmony can be jeopardized through innovation was clear. Change under the most favorable of circumstances induces uncertainty within the organization and, thus, steps must be taken to anticipate and respond to this effect. Staff burnout and institutional reputation were identified as cost areas that, if not attended to, could offset the value achieved through the innovation. In addition, costs resulting from negative effects on the institution's reputation and leadership were noted.

The intent of the authors has been to demonstrate that when considering innovation there are numerous costs (consequences) to be considered in addition to direct expenditures. These cost areas include: 1) Unanticipated funding, 2) innovation without attachment, 3) neglecting core institutional functions, 4) institutional harmony, 5) staff burnout, 6) institutional

reputation, and 7) effects on leadership. An awareness of these areas and institutional efforts to give them full consideration in all phases of the innovation should reduce costs and increase the benefits resulting from institutional change.

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